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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,344	11/10/2003	Hidehiro Saho	36261	5170
116 7590 06/24/2009 PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108				
EXAMINER				
GEHMAN, BRYON P				
ART UNIT		PAPER NUMBER		
3728				
MAIL DATE		DELIVERY MODE		
06/24/2009		PAPER		

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1 UNITED STATES PATENT AND TRADEMARK OFFICE

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4 BEFORE THE BOARD OF PATENT APPEALS  
5 AND INTERFERENCES  
6

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8 *Ex parte* HIDEHIRO SAHO  
9

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11 Appeal 2008-003474  
12 Application 10/705,344  
13 Technology Center 3700  
14

15  
16 Decided:<sup>1</sup> June 24, 2009  
17

18  
19 Before JENNIFER D. BAHR, LINDA E. HORNER, and  
20 FRED A. SILVERBERG, *Administrative Patent Judges*.

21  
22 SILVERBERG, *Administrative Patent Judge*.  
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25 DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Hidehiro Saho (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 3, 7 and 10-13. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

The Appellant's claimed invention is directed to a tape member attachment **24, 25** for an electronic part supplying tape (carrier tape) **7** used in a tape feeder **4** (Spec. 1:7-10 and Spec. 16:2-23).

The invention is readily understood by reference to Figure 5A and Claim 3.

Figure 5A is reproduced below:

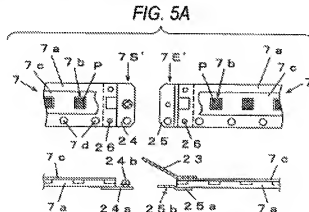


Figure 5A shows the carrier tape **7** and tape member attachments **24, 25** (Spec. 16:7-23).

Claim 3, reproduced below, is representative of the claimed subject matter:

3. An electronic part supplying tape, used in a tape feeder arranged in a part supplying portion of an electronic part mounting apparatus, for holding electronic parts on a tape member at a constant pitch and for supplying the electronic parts, comprising:

a first tape member with a first end portion and a second end portion, and a second tape member with a first end portion and a second end portion;

a first connecting portion formed on the second end portion of the first tape member;

a second connecting portion formed on the first end portion of the second tape member, to be connected to the first connecting portion formed on the first tape member;

an alignment means for positioning the first connecting portion and the second connecting portion in a longitudinal direction, a width direction and a thickness direction of the tape members, and

a holding means for holding the first connecting portion and the second connecting portion to each other,

wherein the first tape member and the second tape member are connectable by connecting the first connecting portion of the first tape member and the second connecting portion of the second tape member,

wherein the first connecting portion of the first tape member comprises a locking member attachment coupled to the second end portion of the first tape member, and the second connecting portion of the second tape member comprises a locked member attachment coupled to the first end portion of the second tape member, and

wherein the locking member attachment and  
the locked member attachment constitute the  
alignment means.

### THE REJECTIONS

The Examiner relies upon the following as evidence of  
unpatentability:

Busler	US 3,431,548	Mar. 4, 1969
Hamano (as translated)	JP 7165260 A	Jun. 27, 1995
Ishii	US 6,389,672 B1	May 21, 2002

The following rejections<sup>2</sup> by the Examiner are before us:

1. Claims 3, 7, 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishii in view of Busler.
2. Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamano in view of Busler.

### ISSUE

The issue before us is whether the Examiner has articulated a reason with rational underpinning to combine the teachings of Ishii and Busler, and the teachings of Hamano and Busler in the manner claimed (App. Br. 6-7).

### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d

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<sup>2</sup> The rejection of claims 12 and 13 under 35 U.S.C. § 112, as set forth in the Final Rejection mailed June 9, 2006 (Final Rejection 2), has been withdrawn (App. Br. 2 and Ans. 2).

1 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for  
2 proceedings before the Office).

3 *The Appellant's Invention*

- 4 1. The Appellant's Specification describes that the tail connecting  
5 end portion **7E'** (first connecting portion) and the head connecting  
6 end portion **7S'** (second connecting portion) are formed by  
7 coupling the attachments **24, 25**, which are a locking member and  
8 a locked member, respectively. The attachments **24, 25** with the  
9 positional relationship between the pin **24b** and the engaging hole  
10 **25b** comprise alignment means and also holding means (Spec.  
11 20:15-Spec. 21:2 and fig. 5A).

12 *The Examiner's Findings*

13 *Claims 3, 7, 10 and 11*

- 14 2. The Examiner found that Ishii describes an electronic part  
15 supplying tape having a first connecting portion **10**, a second  
16 connecting portion **10**, alignment means **8a, 8b**, and holding means  
17 **8a, 8b** (Ans. 3).
- 18 3. The Examiner found implicitly, by combining the teachings of  
19 Ishii and Busler, that Ishii does not describe the particular  
20 connecting, aligning and holding structure as called for in claim 3  
21 (Ans. 4).
- 22 4. The Examiner found that Busler describes a first connecting  
23 portion **44**; a second connecting portion **46**; alignment means **43**,  
24 **44, 48**; holding means **44, 46**; a locking member **43**; and a locked  
25 member **44** (Ans. 3-4).

5. The Examiner found that combining the teachings of Ishii and Busler by replacing the connecting, aligning and holding structure in Ishii with the connecting, aligning and holding structure as taught by Busler would provide Ishii with the advantages of connecting and aligning as taught by Busler (Ans. 4).

*Claims 12 and 13*

6. The Examiner found that Hamano (denoted by the Examiner as EP 07165260) describes an electronic part supplying tape having a first connecting portion (**one end of the tape piece**), a second connecting portion (**the other end of the described tape piece**), alignment means **K, K**, holding means (**portions received in K, K**), and a plurality of feed holes **6** (Ans. 4-5).
7. The Examiner found implicitly, by combining the teachings of Hamano and Busler, that Hamano does not describe the particular connecting, aligning and holding structure as called for in claims 12 and 13 (Ans. 5).
8. The Examiner found that combining the teachings of Hamano and Busler by replacing the connecting, aligning and holding structure **K, K** in Hamano with the connecting, aligning and holding structure as taught by Busler at **43, 44** would provide Hamano with the advantages of a connecting, aligning and holding structure as taught by Busler (Ans. 5).

*This Board's Findings*

9. Ishii describes a component assembling apparatus having a tape-like member **1**, and a supply reel **3**. Ishii's tape-like member **1** includes a succession of holder units **10** joined to each other by

- 1 couplers **8a, 8b** at either end to form a tape-like train (col. 4, ll. 27-  
2 45 and figs. 2 and 5(a)).
- 3 10. Ishii's couplers **8a, 8b** hold the holder units **10** in a particular  
4 arrangement, which thereby aligns the holder units **10**.
- 5 11. Busler describes a carrier strip **41** having a snap member **43** at one  
6 end, a hole **44** and a channel **48** at the other end (col. 2, ll. 28-61  
7 and fig. 1), and slots **49** for engagement by feed fingers (col. 2, l.  
8 62-col. 3, l. 3 and fig. 1). Busler's snap member **43** has a collar **46**  
9 (col. 2, ll. 38-40 and fig. 3). Busler's snap member **43** includes an  
10 inclined surface **47** to facilitate the connection between the snap  
11 member **43** and hole **44** (col. 2, ll. 40-41 and 59-61; and fig. 2).  
12 The one end having the snap member **43** cooperates with the other  
13 end having the hole **44** to form a flat bottom (col. 2, ll. 33-36 and  
14 figs. 2-4). Busler's snap member **43** is pushed through the hole **44**  
15 to interlock two carrier strips (col. 2, ll. 52-56 and figs. 2-4).
- 16 12. Hamano describes forming a carrier tape by connecting multiple  
17 carrier tape pieces, wherein the complementary shaped ends **K, K**  
18 of the carrier tape pieces are fitted together (translation, p. 9, ll. 12-  
19 16 and p. 10, ll. 8-15; and figs. 1, 2 and 4).
- 20 13. Hamano's complementary shaped ends **K, K** of the carrier tape  
21 pieces hold the carrier tape pieces in a particular arrangement,  
22 which thereby aligns the carrier tape pieces.
- 23 14. Appellant has not contested the Examiner's findings as to the  
24 teachings of Ishii, Busler or Hamano (App. Br. 6-7).
- 25 15. Additional findings as necessary appear in the Analysis portion of  
26 this opinion.



PRINCIPLES OF LAW

*Appellant's Burden*

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See Ex parte Yamaguchi*, 88 USPQ2d 1606, 1614 (BPAI 2008) [burden on appeal] (on appeal, applicant must show examiner erred); *Ex parte Fu*, 89 USPQ2d 1115, 1123 (BPAI 2008); *Ex parte Catan*, 83 USPQ2d 1569, 1577 (BPAI 2007); and *Ex parte Smith*, 83 USPQ2d 1509, 1519 (BPAI 2007). *See also In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

*Obviousness*

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See*

1 *also KSR*, 550 U.S. at 406-407 (“While the sequence of these questions  
2 might be reordered in any particular case, the [*Graham*] factors continue to  
3 define the inquiry that controls.”).

4 In *KSR*, the Supreme Court stated that “when a patent claims a  
5 structure already known in the prior art that is altered by the mere  
6 substitution of one element for another known in the field, the combination  
7 must do more than yield a predictable result.” *Id.* at 416 (citing *United*  
8 *States v. Adams*, 383 U.S. 39, 50-51 (1966)).

9 In *KSR*, the Supreme Court stated that:

10 [o]ften, it will be necessary for a court to look to  
11 interrelated teachings of multiple patents; the  
12 effects of demands known to the design  
13 community or present in the marketplace; and the  
14 background knowledge possessed by a person  
15 having ordinary skill in the art, all in order to  
16 determine whether there was an apparent reason to  
17 combine the known elements in the fashion  
18 claimed by the patent at issue.

19 *KSR*, 550 U.S. at 418. The Court noted that “[t]o facilitate review, this  
20 analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988  
21 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained  
22 by mere conclusory statements; instead, there must be some articulated  
23 reasoning with some rational underpinning to support the legal conclusion of  
24 obviousness.”)). However, “the analysis need not seek out precise teachings  
25 directed to the specific subject matter of the challenged claim, for a court  
26 can take account of the inferences and creative steps that a person of  
27 ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

28 In *KSR*, the Supreme Court stated that:

Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents. ... There is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis. But when a court transforms the general principle into a rigid rule that limits the obviousness inquiry, as the Court of Appeals did here, it errs

*Id.* at 419.

### ANALYSIS

Appellant argues claims 3, 7, 10 and 11 as a group. As such, we select claim 3 as representative of the group, and claims 7, 10 and 11 will stand or fall with claim 3. Appellant argues claims 12 and 13 as a group. As such, we select claim 13 as representative of the group, and claim 12 will stand or fall with claim 13. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

*Rejection of claims 3, 7, 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Ishii in view of Busler*

Ishii describes the basic invention as called for in claim 3 (Facts 2 and 9), but does not describe the particular connecting, aligning and holding structure as called for in claim 3 (Fact 3). The Examiner found that Busler describes a first connecting portion **44**; a second connecting portion **46**; alignment means **43**, **44**, **48**; holding means **44**, **46**; a locking member **43**; and a locked member **44** (Fact 4). In particular, Busler describes a carrier strip **41** having a snap member **43** at one end, and a hole **44** and a channel **48** at the other end. Busler's snap member **43** includes an inclined surface **47** that facilitates the connection between the snap member **43** and the hole **44**

1 as the snap member is pushed through the hole **44** to interlock two carrier  
2 strips (Fact 11).

3 Appellant has not contested the Examiner's findings as to teachings of  
4 Ishii or Busler (Fact 14).

5 Appellant contends that "there is no advantage in substituting the  
6 couplers 8a, 8b [of Ishii] for a different connecting structure that would also  
7 merely connect, align, and hold the holder units." Appellant further  
8 contends that neither Ishii nor Busler "even remotely suggest[s] the  
9 desirability of such a modification." (App. Br. 6). The Appellant's latter  
10 argument is unavailing, because the Court in *KSR* held that it is error to limit  
11 the obviousness inquiry to a rigid application of the teaching, suggestion,  
12 motivation (TSM) test. 550 U.S. at 419.

13 We see no error in the Examiner's finding that combining the  
14 teachings of Ishii and Busler would yield in Ishii the advantages as taught by  
15 Busler (Fact 5). The Appellant's Specification describes that the connecting  
16 structure comprises the alignment means and the holding means (Fact 1).  
17 We find that Ishii's connecting structure, couplers **8a, 8b**, similarly  
18 comprises an alignment and a holding means (Fact 10). We find that  
19 combining the teachings of Ishii and Busler by replacing the connecting,  
20 aligning and holding structure, couplers **8a, 8b** in Ishii with the connecting,  
21 aligning and holding structure as taught by Busler at **43, 44** would provide  
22 Ishii's holder units **10** with an inclined surface **47** to facilitate the connection  
23 between the snap member **43** and hole **44**, and also provide a connecting,  
24 aligning and holding structure that interlocks the holder units **10**.

25 The modification proposed by the Examiner is the simple substitution  
26 of one known connecting, aligning and holding structure for another to

1 perform the same function of connecting, aligning and holding two objects,  
2 and thereby yield predictable results. *See KSR*, 550 U.S. at 416 (the claimed  
3 combination of known structure altered by the mere substitution of one  
4 element for another known structure must do more than yield a predictable  
5 result).

6 Therefore, we conclude that the Appellant has not demonstrated that  
7 the Examiner erred in rejecting claim 3 over Ishii in view of Busler. The  
8 Appellant has likewise not demonstrated error in the Examiner's rejection of  
9 claims 7, 10 and 11, which fall with claim 3.

10  
11 *Rejection of claims 12 and 13 as being unpatentable over Hamano in view of*  
12 *Busler*  
13

14 Hamano describes the basic invention as called for in claim 13 (Facts  
15 6 and 12), but does not describe the particular connecting, aligning and  
16 holding structure as called for in claim 13 (Fact 7). The Examiner found that  
17 Busler describes a first connecting portion **44**; a second connecting portion  
18 **46**; alignment means **43**, **44**, **48**; holding means **44**, **46**; a locking member  
19 **43**; and a locked member **44** (Fact 4). In particular, Busler describes a  
20 carrier strip **41** having a snap member **43** at one end, and a hole **44** and a  
21 channel **48** at the other end. Busler's snap member **43** includes an inclined  
22 surface **47** that facilitates the connection between the snap member **43** and  
23 the hole **44** as the snap member is pushed through the hole **44** to interlock  
24 two carrier strips (Fact 11).

25 Appellant has not contested the Examiner's findings as to teachings of  
26 Hamano or Busler (Fact 14).

Appellant contends that Hamano does not suggest a motivation or desirability to modify its connecting structure by making a substitution with Busler's snap member **43** and receptacle (hole) **44** (App. Br. 7). For the same reasons discussed above, the Appellant's argument of error based on a rigid application of the TSM test is unavailing. *See KSR*, 550 U.S. at 419 (holding that it is error to apply the TSM test as a rigid formula to limit the obviousness inquiry).

We see no error in the Examiner's finding that combining the teachings of Hamano and Busler would yield in Hamano the advantages as taught by Busler (Fact 8). The Appellants' Specification describes that the connecting structure comprises the alignment means and the holding means (Fact 1). We find that Hamano's connecting structure, complementary shaped ends **K, K** of the carrier tape pieces, similarly comprises an alignment and a holding means (Fact 13). We find that combining the teachings of Hamano and Busler by replacing the connecting, aligning and holding structure **K, K** in Hamano with the connecting, aligning and holding structures as taught by Busler at **43, 44** would provide Hamano's carrier tape pieces with an inclined surface **47** to facilitate the connection between the snap member **43** and hole **44**, and also provide a connecting, aligning and holding structure that interlocks the carrier tape pieces.

The modification proposed by the Examiner is the simple substitution of one known connecting, aligning and holding structure for another to perform the same function of connecting, aligning and holding two objects, and thereby yield predictable results. *See KSR*, 550 U.S. at 416.

Therefore, we conclude that the Appellant has not demonstrated that the Examiner erred in rejecting claim 13 over Hamano in view of Busler.

The Appellant has likewise not demonstrated error in the Examiner's rejection of claim 12, which falls with claim 13.

#### CONCLUSIONS OF LAW

Appellant has not established that the Examiner erred in articulating a reason with rational underpinning that would have led a person of ordinary skill in the art to modify the tape members of Ishii or Hamano to use the connecting structure of Busler in the manner claimed.

#### DECISION

The decision of the Examiner to reject claims 3, 7, 10 and 11 over Ishii in view of Busler, and claims 12 and 13 over Hamano in view of Busler is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

#### AFFIRMED

mls

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